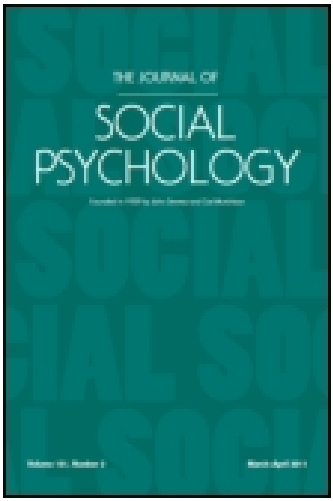


The Journal of Social Psychology

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/vsoc20

Shared Patterns of Nonverbal Normative Expectations in Automobile Driving

Ronald E. Shor [a]

[a] Laboratory of Social Relations , Harvard University; and Brandeis University , USA

Published online: 01 Jul 2010.

To cite this article: Ronald E. Shor (1964) Shared Patterns of Nonverbal Normative Expectations in Automobile Driving, The Journal of Social Psychology, 62:1, 155-163, DOI: 10.1080/00224545.1964.9919512

To link to this article: http://dx.doi.org/10.1080/00224545.1964.9919512

The Journal of Social Psychology, 1964, **62**, 155-163.

SHARED PATTERNS OF NONVERBAL NORMATIVE EXPECTATIONS IN AUTOMOBILE DRIVING* [1]

Laboratory of Social Relations, Harvard University; and Brandeis University

RONALD E. SHOR

A. PURPOSE

The multiple spheres of competence which the automobile driver must keep cognitively mobilized while driving may, for descriptive convenience, be classified as four general skills: (*a*) a working knowledge of legal rules, (*b*) mechanical control of the vehicle, (*c*) competence in judging physical interplays of objects in relative motion, and (*d*) working knowledge of how to interpret the locomotive intentions of other drivers and how to communicate one's intentions in return.

The present brief discussion is limited in scope to the fourth of these general skills—the nonverbal communication of relative intentions—which has heretofore received little attention in the scientific literature on automobile driving. The first three skills have been discussed in detail in many other publications (e.g., 1, 2, 4, 5, 6, 7, 8, 9). The best theoretical treatment of the third general skill has been made using a Lewinian field-analytic point of view by Gibson and Crooks (3); also relevant is the discussion by Van Lennep (10).

B. MUTUALLY UNDERSTOOD PATTERNS OF EXPECTATIONS

Wherever humans interact in patterned activities, normative conventions develop to serve various social functions. Sometimes social norms are codified into abstruse laws; sometimes they are so embedded in immediate cultural functioning that they remain mostly unverbalized. In automobile driving, mutually understood patterns of social expectations (norms) develop out of the realities of the driving situation. While always in flux, these shared expectations serve as the basis for the nonverbal communication of relative intentions among drivers.

* Accepted by Gardner Murphy of the Editorial Board, and received in the Editorial Office on June 6, 1962.

[1] This work was supported in part by grants from the Institute for Experimental Psychiatry and the Society for the Investigation of Human Ecology. I wish to thank my colleagues, Martin T. Orne, Donald N. O'Connell, Emily Carota Orne, and Esther C. Damaser, for their critical comments and editorial assistance in the preparation of this manuscript.

Given a set of mutually understood normative meanings, the slightest movements of a car in relation to the total ongoing driving situation may convey vital information of a driver's intentions, which otherwise would be meaningless. In the specific, concrete driving situation, only a few lines of rational possibility are open, and these are so rigidly overdetermined by the complex interdependency of factors that the slightest cue given at the crucial

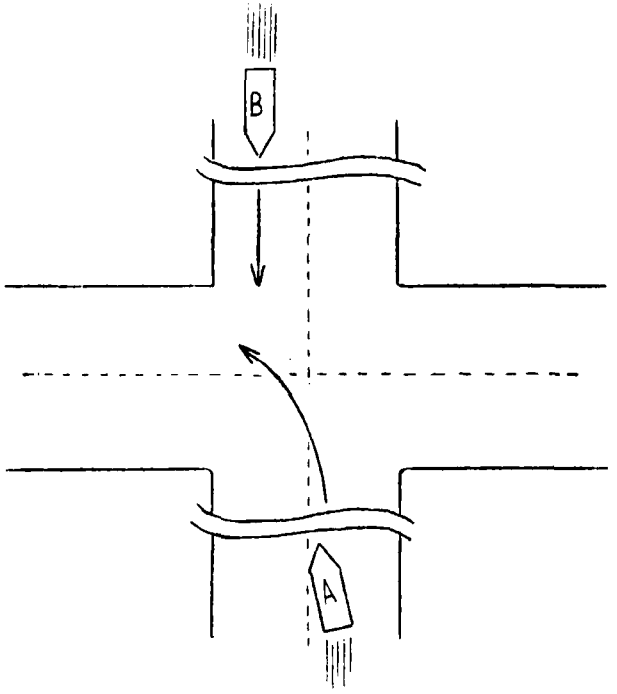


FIGURE 1
SCHEMATIC REPRESENTATION OF THE INITIAL SITUATION IN THE INTERPLAY OF HOW DRIVER A COMMUNICATES HIS INTENTION TO TURN LEFT AND HOW DRIVER B THEN COMMUNICATES HIS CONSENT
(A's veer to the left is deliberately exaggerated in the diagram)

instant may convey the intentions of a complex chain of events. Usually, however, the cues (signals) are multiple. The following example illustrates concretely how drivers' relative intentions are communicated.

> Two drivers, A and B, are approaching each other from opposite directions along a city thoroughfare, both at moderate speed (see Figure 1). The two cars are about one-half block apart. Driver A is closer to an intervening intersection than is driver B, and driver A wishes to turn

left at this intersection. To communicate his intention to turn, driver A signals by veering his car *slightly* to the left. But after the signal is given, driver B maintains his speed and direction so that driver A is not sure whether B will consent to A's proceeding first. Driver A thus slows down a little more than he would merely to make the turn, half-preparing to stop, but not enough to signal B that he definitely will stop. Driver B perceives A's signals of hesitation and, since B is quite willing to let A proceed first, B slows down *just enough* and veers to his left *just enough* to inform A to make his turn. Driver A immediately interprets B's actions, ceases hesitating, and confidently makes his turn as B travels by on A's right.

C. Confusions When Normative Expectations Are Not Shared

Different social norms of driving may emerge as dominant in given areas at given times. Confusions result when normative expectations are not shared. Indeed, the functional properties of the driving norms, otherwise taken for granted, are seen most clearly when observed in conflict. The following extended example illustrates the interactions of two partially disparate sets of normative systems.

D. Extended Example of Normative System Interactions

In urban, congested Boston, Massachusetts, highly competitive norms of driving behavior have emerged in which every driver is expected to remain acutely aware of the positions and intentions of everyone else. In rural, uncongested Lawrence, Kansas, more leisurely and courteous driving patterns have emerged in which less acute attention need be given to the positions and intentions of other drivers.

The unwritten driving norms in congested Boston require and expect that every driver will take every reasonable advantage for himself. The unwritten driving norms in uncongested Lawrence require and expect that every driver will first show courtesy to others before taking his own advantage. Boston drivers *must* act competitively in order to communicate proper signals of their intentions to other Boston drivers. The mutually understood driving patterns in rural Lawrence, on the other hand, insist on courtesy to others first—since drivers in Lawrence cannot be at all sure that other drivers are fully alert to relative positions and intentions. Both systems work efficiently for their respective traffic conditions. In urban Boston less effort is required in the long run when everyone acts competitively. In rural Lawrence less effort is required in the long run when everyone acts courteously. Although trouble arises for both functional systems when expectations

clash, each functional system is self-consistent. The Bostonian in Lawrence or the Lawrencian in Boston is a source of confusion because normative expectations are in disarray.

The divergence between the norms in urban Boston and rural Lawrence is illustrated further by tracing the functional consequences of the disparate norms in a few common traffic situations.[2]

The two traffic situations illustrated are I. The Stop-Sign Situation, and II. The Entering Heavy Traffic Situation. These two illustrative traffic situations are schematically represented in Figure 2.

> Illustration I.: The Stop-Sign Situation. Driver A has just made a complete stop at a stop-sign preparatory to entering a highway. Driver B is driving along the highway which A wishes to enter. B is rapidly approaching the intersection where A is stopped, but B is still a modest distance away.

Since both drivers, A and B, may either be Boston or Lawrence drivers, a fourfold table depicts the four basic permutations of their interaction in this particular situation. These four permutations are discussed separately below.

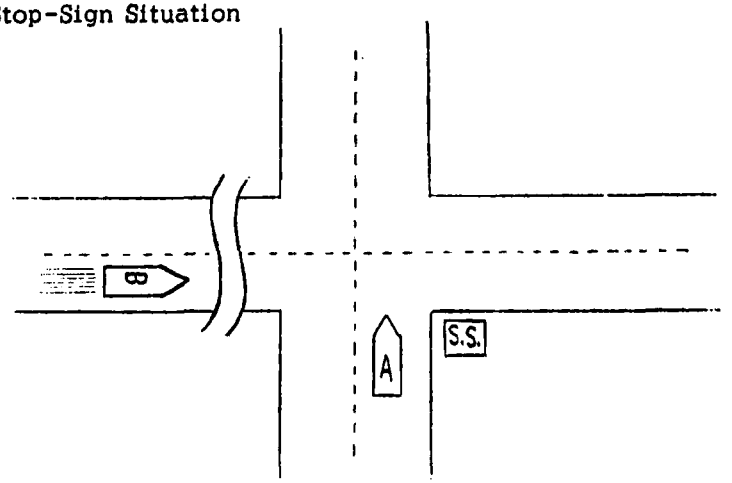
FOURFOLD TABLE

		Driver B	
		Bostonian	Lawrencian
Driver A	Bostonian	1	3
	Lawrencian	4	2

1. Both A and B are Boston drivers. If B is far enough away, driver A will immediately try to start moving again and get far enough into the intersection to communicate to B that he, A, has the competitive advantage in the situation and, thus, that B is required to stop. Driver A expects without thinking about it that other (Boston) drivers will expect him to engage in just this kind of competitive maneuver. Driver A expects also that these other drivers will attempt by various subtle cues and signals to prevent his acquisition of the advantage if they feel they have the greater competitive strength. If such cues and signals are forthcoming, A may either reassert his prerogative or relinquish his claim and allow B to proceed first. If an immediate satisfactory competitive adjustment by both cannot be worked out on this "automatic" level of orderly nonverbal communication, then both

[2] Many of these relationships would appear, moreover, to lend themselves to rigorous, quantitative field-observation with minimum apparatus such as a stopwatch and a motion-picture camera.

I. The Stop-Sign Situation



II. The Entering Heavy Traffic Situation

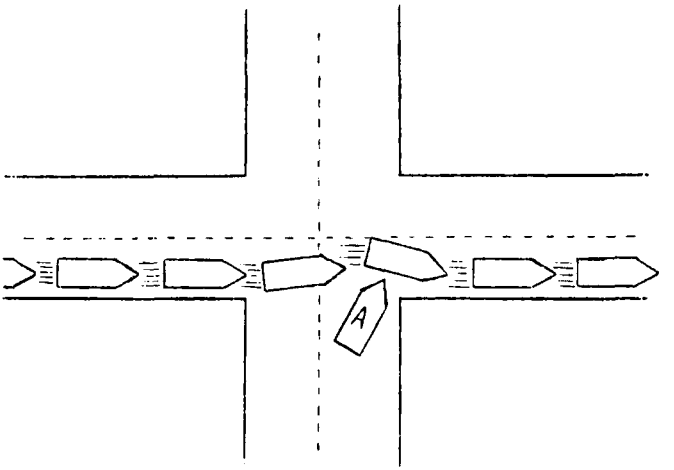


FIGURE 2
SCHEMATIC REPRESENTATION OF THE TWO ILLUSTRATIVE TRAFFIC SITUATIONS

drivers, in their mutual confusion, will slow down, and they will then have to bring a more conscious and deliberate appraisal of the situation into play. The typical Boston driver has no intention to be *overly* competitive. His motive for engaging in the competitive interplay is to comprehend and react

to the ongoing events in as "automatic" a manner as possible. Competition is a workable system when everyone shares its rules: it takes a minimal amount of mental effort, leads to little confusion, and is relatively safe and efficient.

2. Both A and B are Lawrence drivers. Again an efficient, relatively safe system can be observed. Driver A, stopped at the stopsign, holds the expectation that he must wait at the stopsign for closely approaching drivers to pass before he even begins to try to enter the intersection. The idea that he, A, might try to assert a competitive prerogative over other drivers appears to him irresponsible. Other Lawrence drivers fully share this expectation of considerateness. Since driver B is also a Lawrence driver, without reflection he understands that A certainly must intend to wait and, consequently, B maintains his speed. But if B is far away, both A and B will interpret the situation as one in which B should stop. Thus, A will begin to move into the intersection. Driver A need not hurry, since, by the preexisting rules, he already knows B must intend to stop.

3. Driver A is a Boston driver; B is a Lawrence driver. B is traveling peaceably along the throughway, convinced of his right-of-way. B then sees A, the Boston driver, at first hurriedly stop at the stopsign, and then, just as hurriedly, dash out into the throughway. Driver A, on the other hand, has clearly signalled to B his greater competitive strength, and A is thus disconcerted to see B keep on coming. Both parties are confused, both feel they have behaved correctly, and both believe the other driver is behaving inappropriately.

4. Driver A is a Lawrence driver; B is a Boston driver. If B is close enough, A simply waits for him to pass. If B is far enough away, A assumes that B intends to stop, and thus A proceeds to enter the intersection. If A enters confidently, B will stop; if A is slow or hesitant, B may interpret A's indecisiveness as a signal for seeking and giving further information of intentions through competitive interaction. B may consequently "automatically" speed up slightly or veer a trifle to the left to try to communicate to A his relative competitive strength. Since A will probably misinterpret these subtle communications, confusion generally results.

> Illustration II.: The Entering Heavy Traffic Situation. An unending line of traffic is moving along a main thoroughfare. On a side street, leading into the thoroughfare, is a car driven by A. Driver A wishes to enter the line of traffic.

A parallel set of four permutations of Boston or Lawrence norms may be described.

1. Driver A is a Bostonian in Boston. Driver A will slowly creep out into the thoroughfare as each car passes until someone is forced to let him enter. Before A is finally allowed to enter, however, he causes himself to become more and more of an obstacle to the advancing line of traffic. On account of A, the advancing line of traffic is consequently forced to slow down and veer further out to the center of the roadway to pass. Eventually, A becomes so much of an obstacle in the advancing line of traffic, and it has slowed down so much anyway, that someone finds it easier to allow A to enter rather than to pass him by. Driver A must carefully time the process so as to take as much competitive advantage as possible with each passing car, and yet not to move out so fast as to create a danger.

2. Driver A is a Lawrencian in Boston. Driver A is at a disadvantage because unending lines of traffic are such an uncommon occurrence in his rural location that his normative expectations are ill-equipped to deal with them efficiently. The Lawrence driver in Boston is overwhelmed by the unending line of traffic, and when no driver shows him the least courtesy he feels indignant at the selfishness. When, inevitably, a reasonably large opening does present itself, the Lawrence driver expects that other drivers will finally have to allot him the right-of-way, and are thus preparing to stop. Boston drivers, however, share no such expectation; in Boston, right-of-way is achieved competitively. Armed with his erroneous expectation, the Lawrence driver either moves leisurely into the intersection or dashes quickly out into the opening. If the Lawrence driver moves into the intersection leisurely, he finds the next car advancing toward him with undiminished speed and trying to cut off his progress. If, on the other hand, the Lawrence driver dashes quickly out into the intersection, the approaching Boston driver is suddenly confronted with a dangerous, unexpected obstacle. In Lawrence, the opening between cars is itself a mutually understood signal to let the waiting car enter; in Boston, it means no such thing.

When the unending traffic situation does occur (rarely) in Lawrence, we again find confusions only when driving norms clash.

3. Driver A is a Lawrence driver in Lawrence. Driver A just waits patiently at the intersection until, shortly, someone courteously allows him to enter.

4. Driver A is a Boston driver in Lawrence. Driver A's competitive scramble calls forth emergency reactions in the Lawrence drivers, and A's behavior is interpreted as gross rudeness.

E. How the New Driver Learns the Norms

The new automobile driver learns the social norms through example, in the process of actual interplays with other drivers. The new driver has only a dim conception at first of what to expect from, and how to communicate with, other drivers and pedestrians. The new driver's indecisiveness, however, is often expressively communicated to experienced drivers, who then appropriately readjust their expectations and behavior to allow the new driver to proceed unmolested. Occasionally, however, the new driver's lack of understanding results in a confusion serious enough to supply raw material for his slowly dawning understanding of the social norms, as is illustrated in the following example.

> Two cars enter a city rotary at the same time and speed but from different roads. Driver A, an inexperienced driver, enters on a roadway to the right of driver B, an experienced driver. Inexperienced A hesitates momentarily and experienced B "illegally," but properly, monopolizes A's legal right-of-way, to A's consternation.

Driver A knew that he had the legal right-of-way, but because of his inexperience A was somewhat hesitant in his driving behavior. Because actual driving decisions depend upon the complex of particular circumstances and signals rather than upon abstract legal rules, driver B was watching inexperienced A's movements for signals. Driver B saw A hesitating and—legal right-of-way notwithstanding—properly interpreted A's hesitation as a yielding of competitive initiative. Driver B had no wish to violate A's prerogative. B did not care who entered the rotary first, and he would have freely honored A's right-of-way had A appropriately asserted it. Provided driver B knows what driver A plans to do, it is irrelevant to B who gets the right-of-way. If, at the last moment and without sufficient signaling, inexperienced A asserts his legal right-of-way, B's failure to honor it will incorrectly seem to inexperienced A as the act of an irresponsible, selfish driver who has little regard for legal rules. In time, however, an unverbalized awareness of the true variables slowly tends to develop out of just such urgencies.

Some new drivers never become proficient in the social norms, however. As a consequence, they remain overcautious, with low official accident records, and yet are a constant source of harassment and confusion (e.g., the so-called "woman driver" of either sex). It is our suspicion that, except for the sporadic driver, these are often individuals who have hardly ever been forced to drive when fatigued or preoccupied with other considerations. Only then, would we suspect, is the new driver apt to allow his conscious deliberations

to relax enough for expressive communications to register and evolve into appropriate nonverbal conceptual understandings.

F. Summary

In the scientific literature on automobile driving, little attention has been devoted to how drivers interpret nonverbally the locomotive intentions of other drivers, and how they communicate their own intentions in return. The view presented in this brief discussion is that mutually understood patterns of social expectations (norms) develop out of the realities of the driving situation. These shared expectations then serve as the basis of nonverbal communication. Examples are given of how confusions result when normative expectations are not shared, and of the process by which new drivers learn the norms.

References

1. DeSilva, H. R. Why We Have Automobile Accidents. New York: Wiley, 1942.
2. Forbes, T. W. Procedural task factors and performance decrement in automobile driving. Paper presented at the American Psychological Association Convention, 1960.
3. Gibson, J. J., & Crooks, L. E. A theoretical field-analysis of automobile driving. *Amer. J. Psychol.*, 1938, **51**, 453-471.
4. Lauer, A. R. Learning to Drive Safely. Minneapolis: Burgess, 1949.
5. Matson, T. M., Smith, W. S., & Hurd, F. W. Traffic Engineering. New York: McGraw-Hill, 1955.
6. McFarland, R. A. Human Variables in Motor Vehicle Accidents. Boston: Harvard School of Public Health, 1955.
7. President's Committee for Traffic Safety. Special report on the Williamsburg conference. *Traffic Safety Res. Rev.*, 1958, **2**, 2-11.
8. Ross, H. L. Schematic analysis of the driving situation. Unpublished manuscript, 1960.
9. ———. Ignorance of collision course as a factor in traffic accidents. Unpublished manuscript, 1960.
10. Van Lennep, D. J. Psychological factors in driving. *Traffic Quart.*, 1952, **6**, 483-498.

Massachusetts Mental Health Center
74 Fenwood Road
Boston 15, Massachusetts